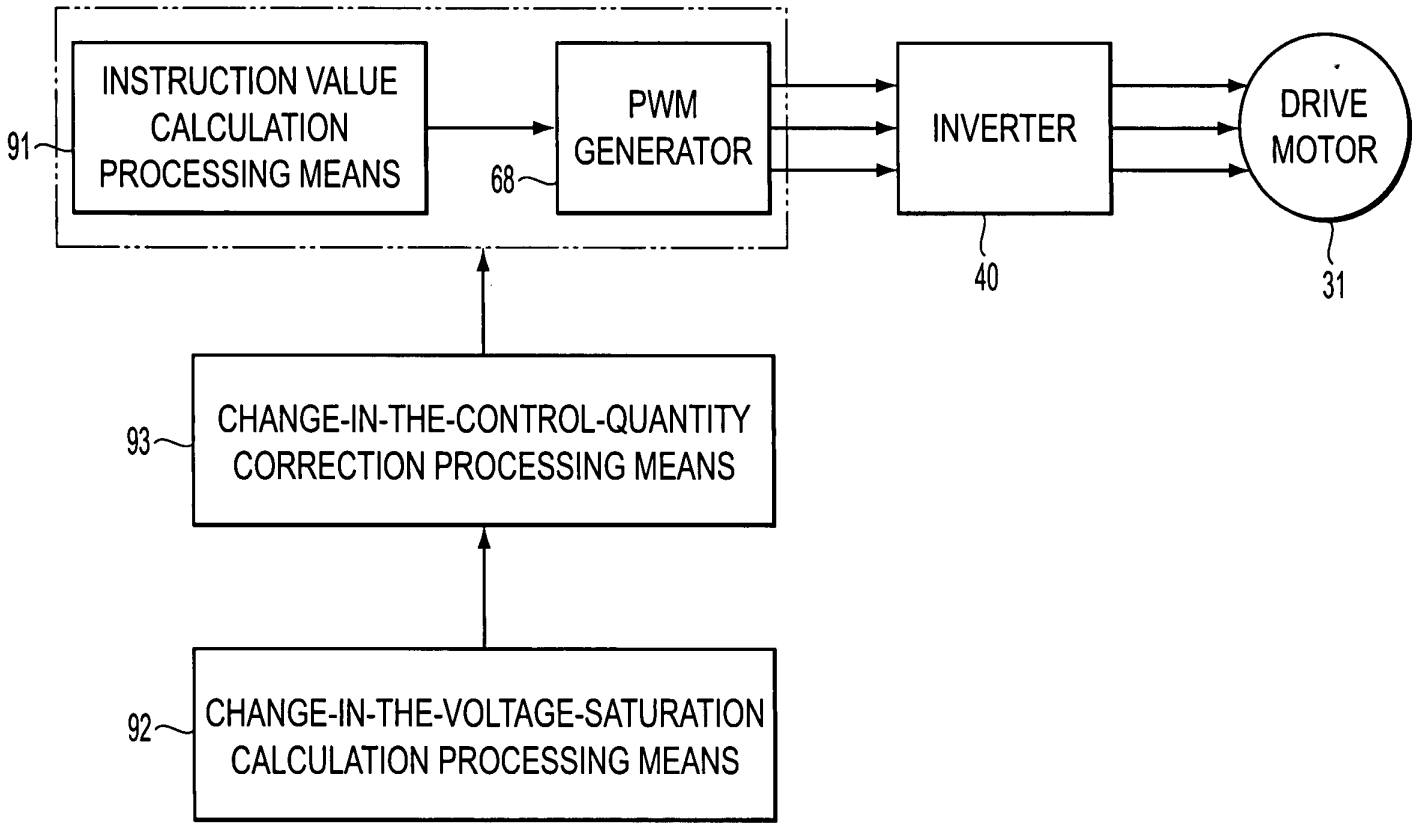
INSTRUCTION VALUE CALCULATION PROCESSING MEANS
91
PWM GENERATOR
68
INVERTER
40
DRIVE MOTOR
31
CHANGE-IN-THE-CONTROL-QUANTITY CORRECTION PROCESSING MEANS
93
CHANGE-IN-THE-VOLTAGE-SATURATION CALCULATION PROCESSING MEANS
92

FIG. 1

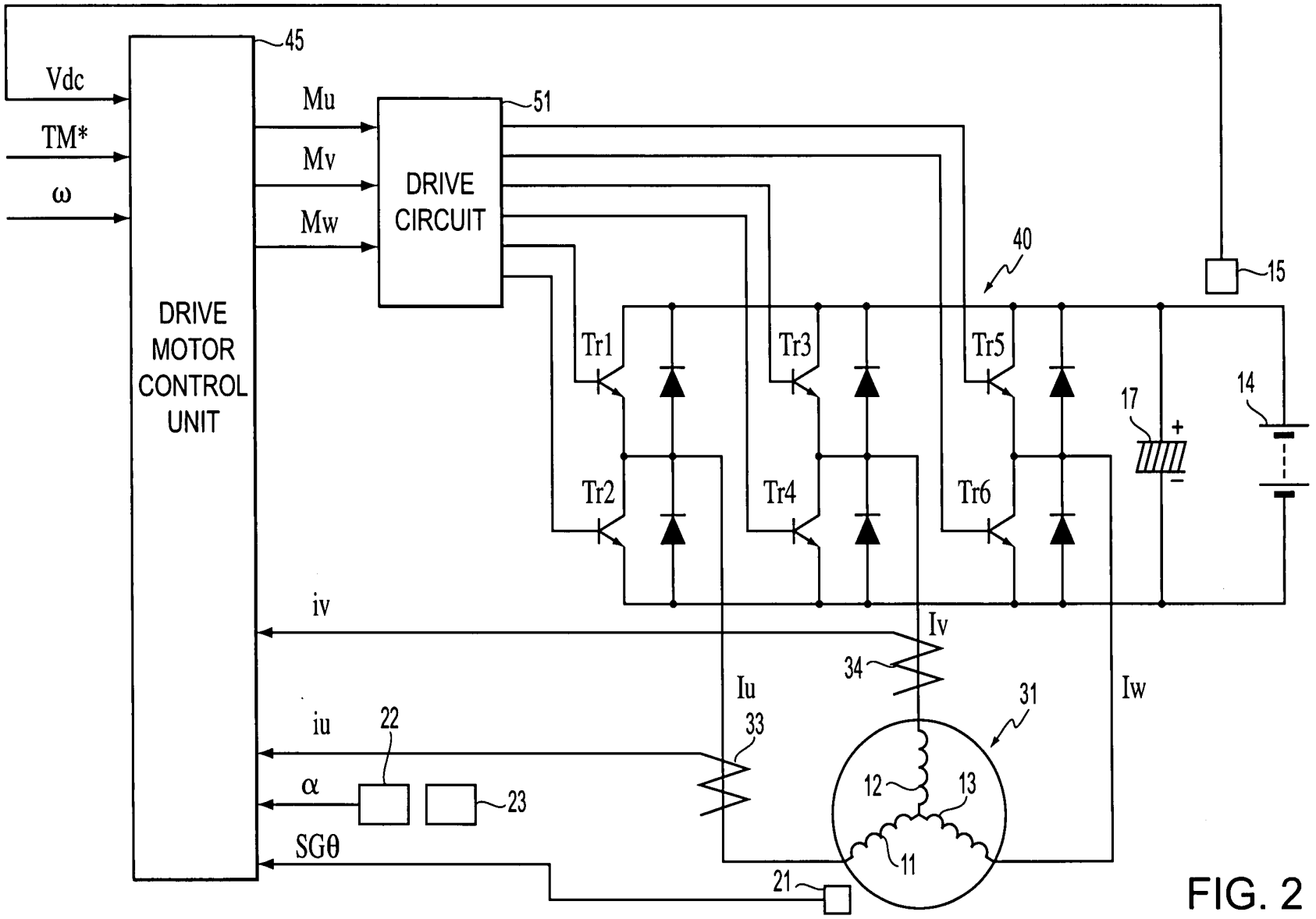
45
Vdc
TM*
ω
DRIVE MOTOR CONTROL UNIT
Mu
Mv
Mw
51
DRIVE CIRCUIT
40
15
Tr1
Tr2
Tr3
Tr4
Tr5
Tr6
17
14
iv
Iv
34
Iu
Iw
31
iu
22
33
α
23
12
13
SGθ
11
21

FIG. 2

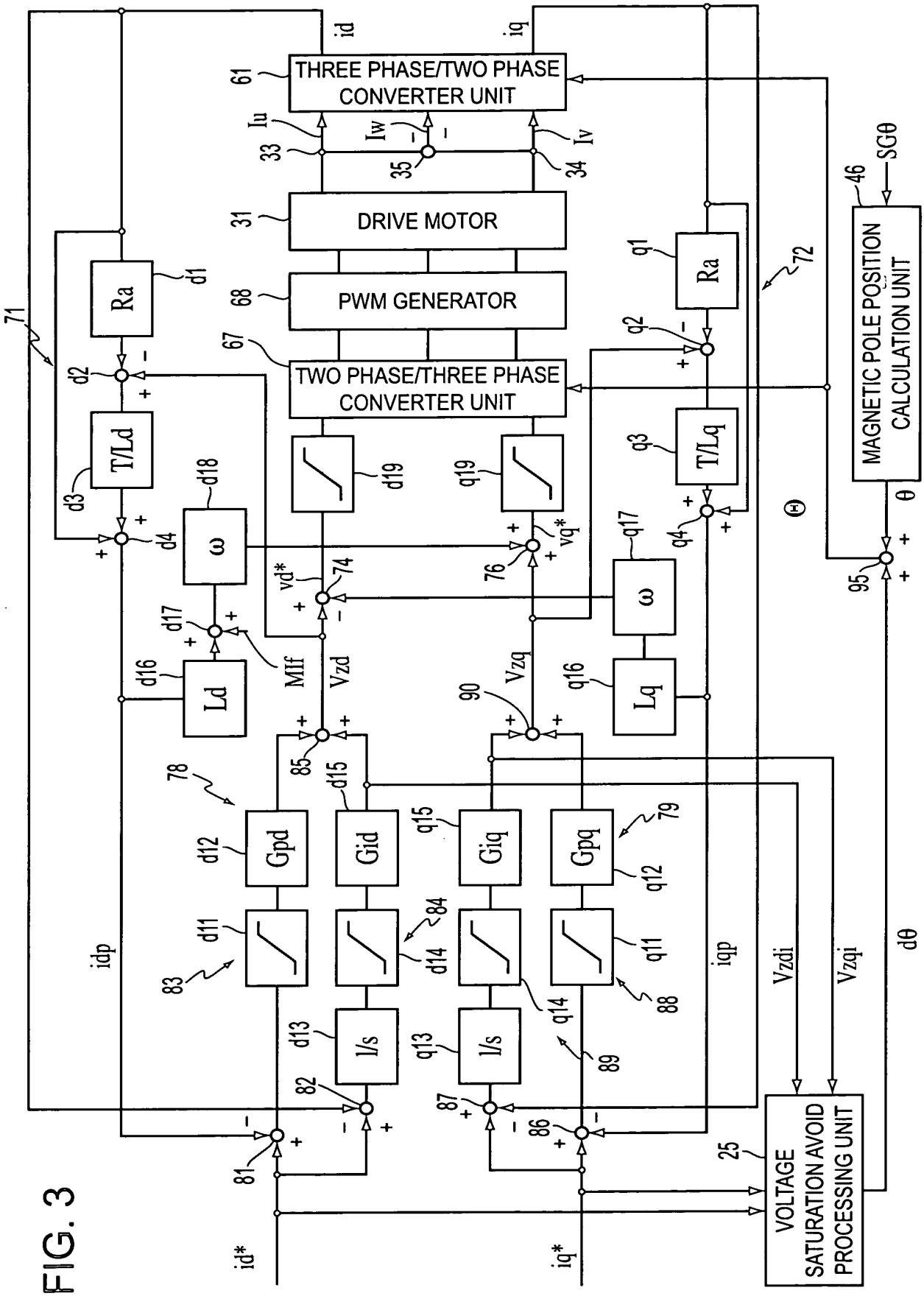
THREE PHASE/TWO PHASE CONVERTER UNIT
DRIVE MOTOR
PWM GENERATOR
TWO PHASE/THREE PHASE CONVERTER UNIT
MAGNETIC POLE POSITION CALCULATION UNIT
VOLTAGE SATURATION AVOID PROCESSING UNIT
Ra
T/Ld
T/Lq
Ld
Lq
ω
Gpd
Gid
Giq
Gpq
1/s
id
iq
id*
iq*
idp
iqp
Iu
Iv
Iw
Mif
Vzd
Vzq
Vzdi
Vzqi
vd*
vq*
SGθ
θ
dθ

FIG. 3

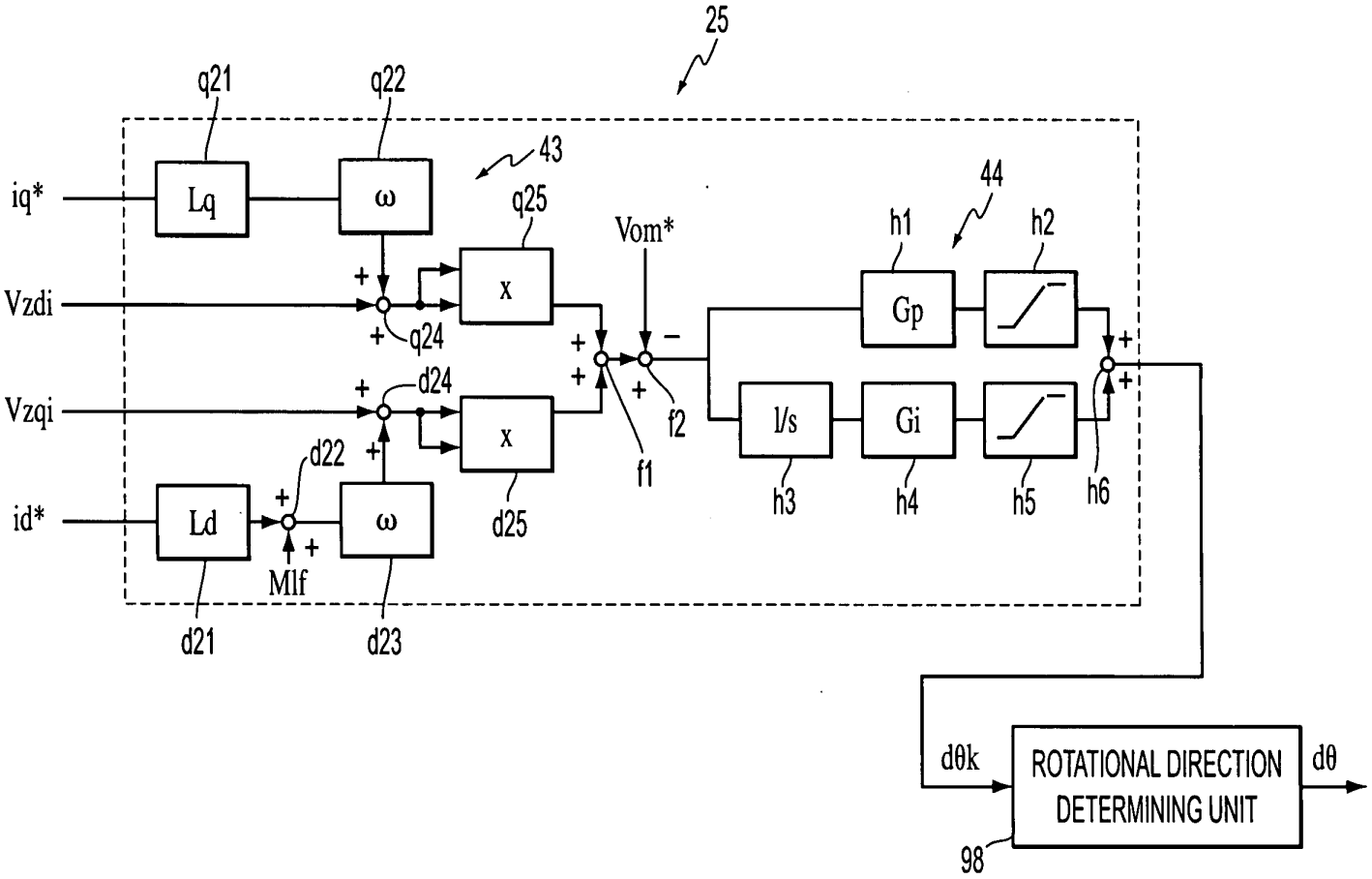
25
q21
q22
43
44
iq*
Lq
ω
q25
Vom*
h1
h2
Vzdi
x
Gp
q24
d24
Vzqi
x
l/s
Gi
f2
f1
d22
h3
h4
h5
h6
id*
Ld
ω
d25
Mlf
d21
d23
dθk
ROTATIONAL DIRECTION DETERMINING UNIT
dθ
98

FIG. 4

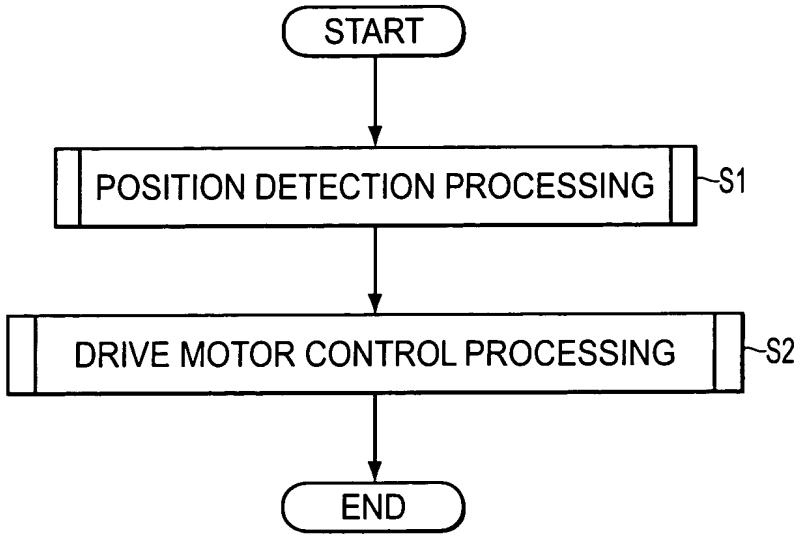
START
POSITION DETECTION PROCESSING
S1
DRIVE MOTOR CONTROL PROCESSING
S2
END

FIG. 5

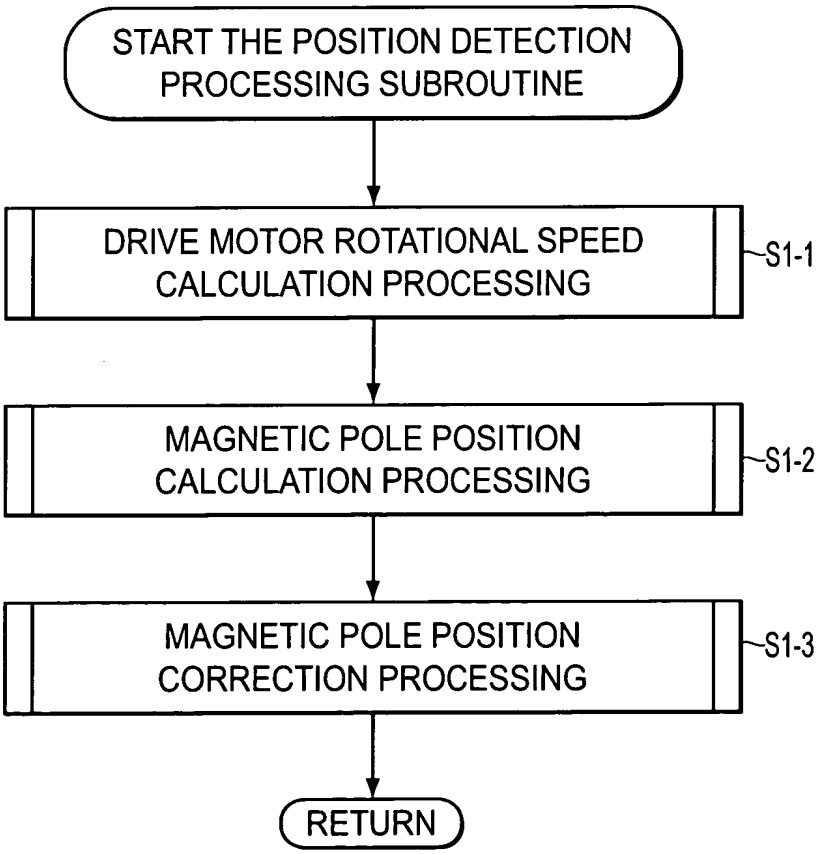
START THE POSITION DETECTION PROCESSING SUBROUTINE
DRIVE MOTOR ROTATIONAL SPEED CALCULATION PROCESSING
S1-1
MAGNETIC POLE POSITION CALCULATION PROCESSING
S1-2
MAGNETIC POLE POSITION CORRECTION PROCESSING
S1-3
RETURN

FIG. 6

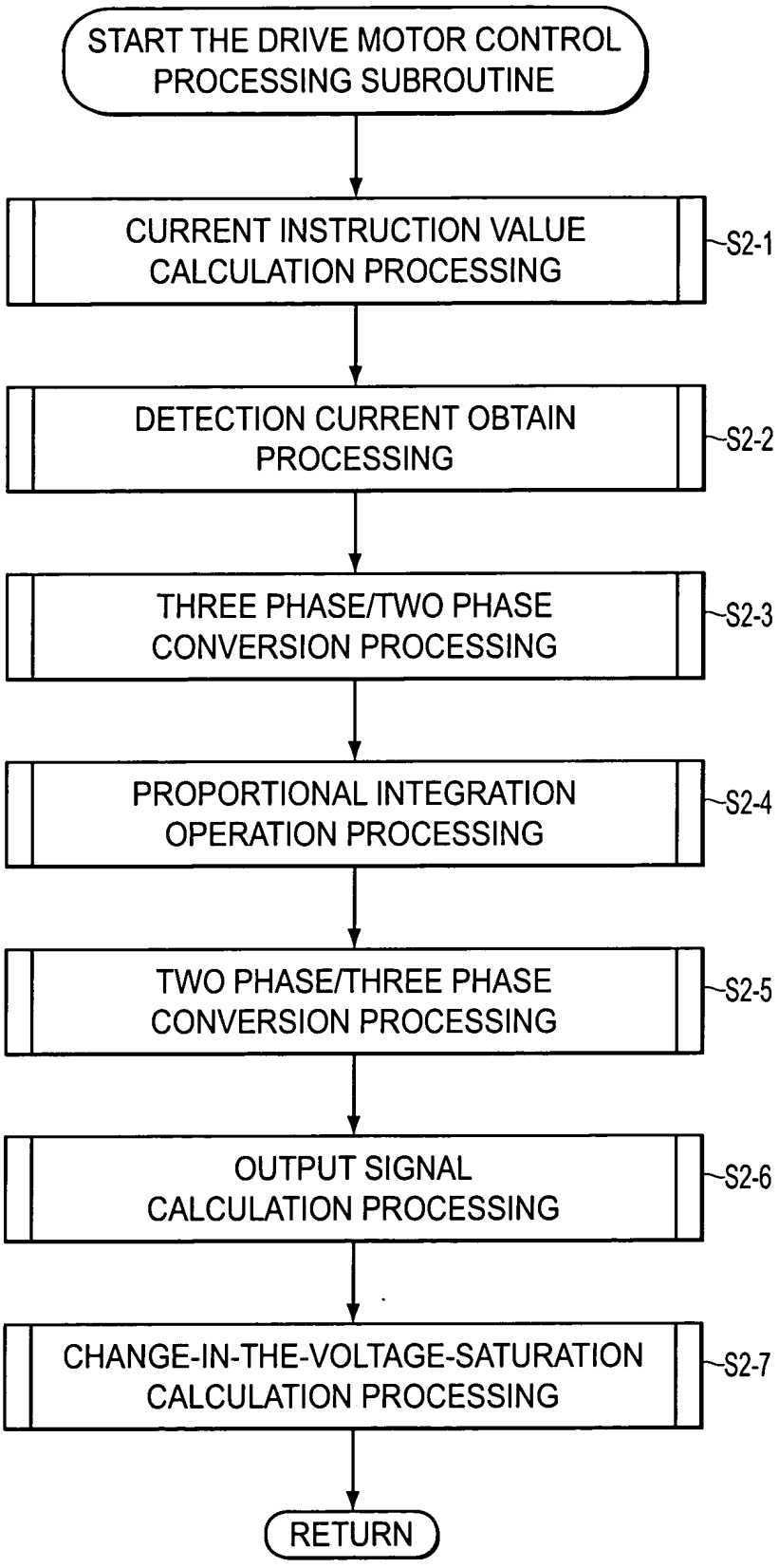
START THE DRIVE MOTOR CONTROL PROCESSING SUBROUTINE
CURRENT INSTRUCTION VALUE CALCULATION PROCESSING
S2-1
DETECTION CURRENT OBTAIN PROCESSING
S2-2
THREE PHASE/TWO PHASE CONVERSION PROCESSING
S2-3
PROPORTIONAL INTEGRATION OPERATION PROCESSING
S2-4
TWO PHASE/THREE PHASE CONVERSION PROCESSING
S2-5
OUTPUT SIGNAL CALCULATION PROCESSING
S2-6
CHANGE-IN-THE-VOLTAGE-SATURATION CALCULATION PROCESSING
S2-7
RETURN

FIG. 7

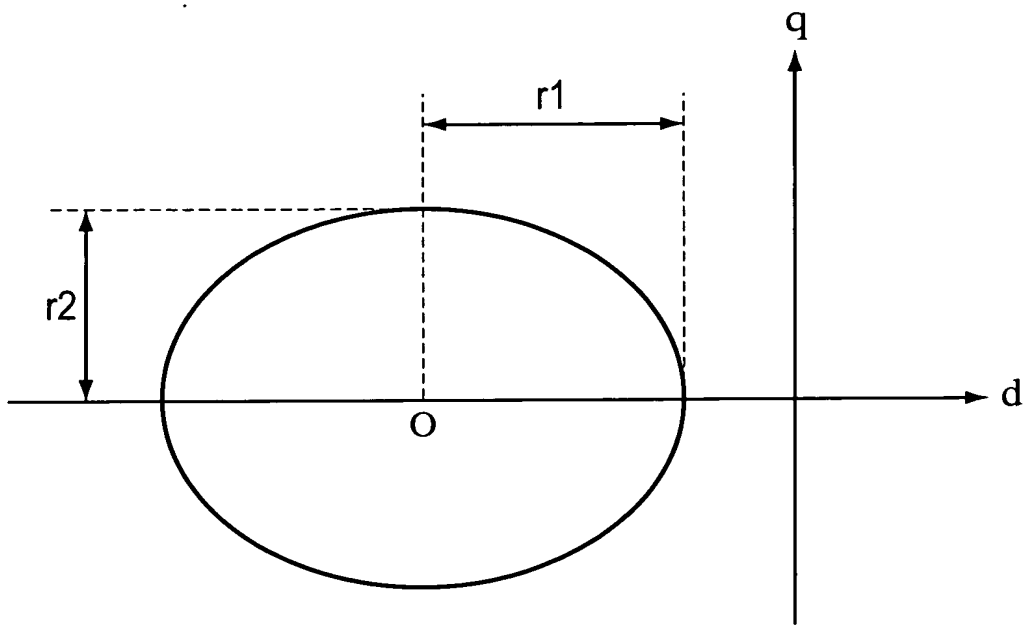

FIG. 8

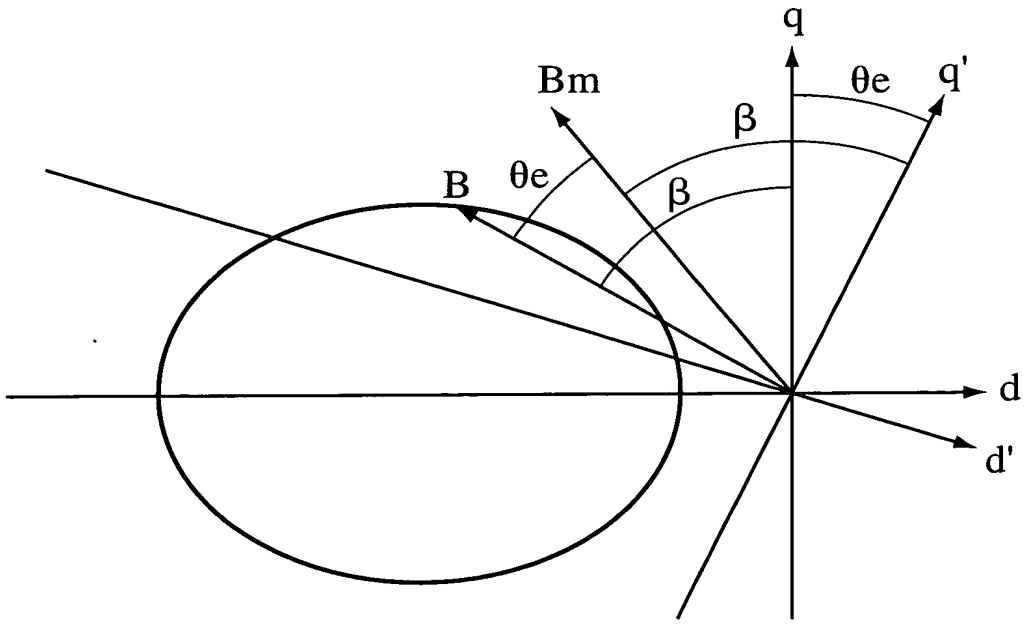

FIG. 9

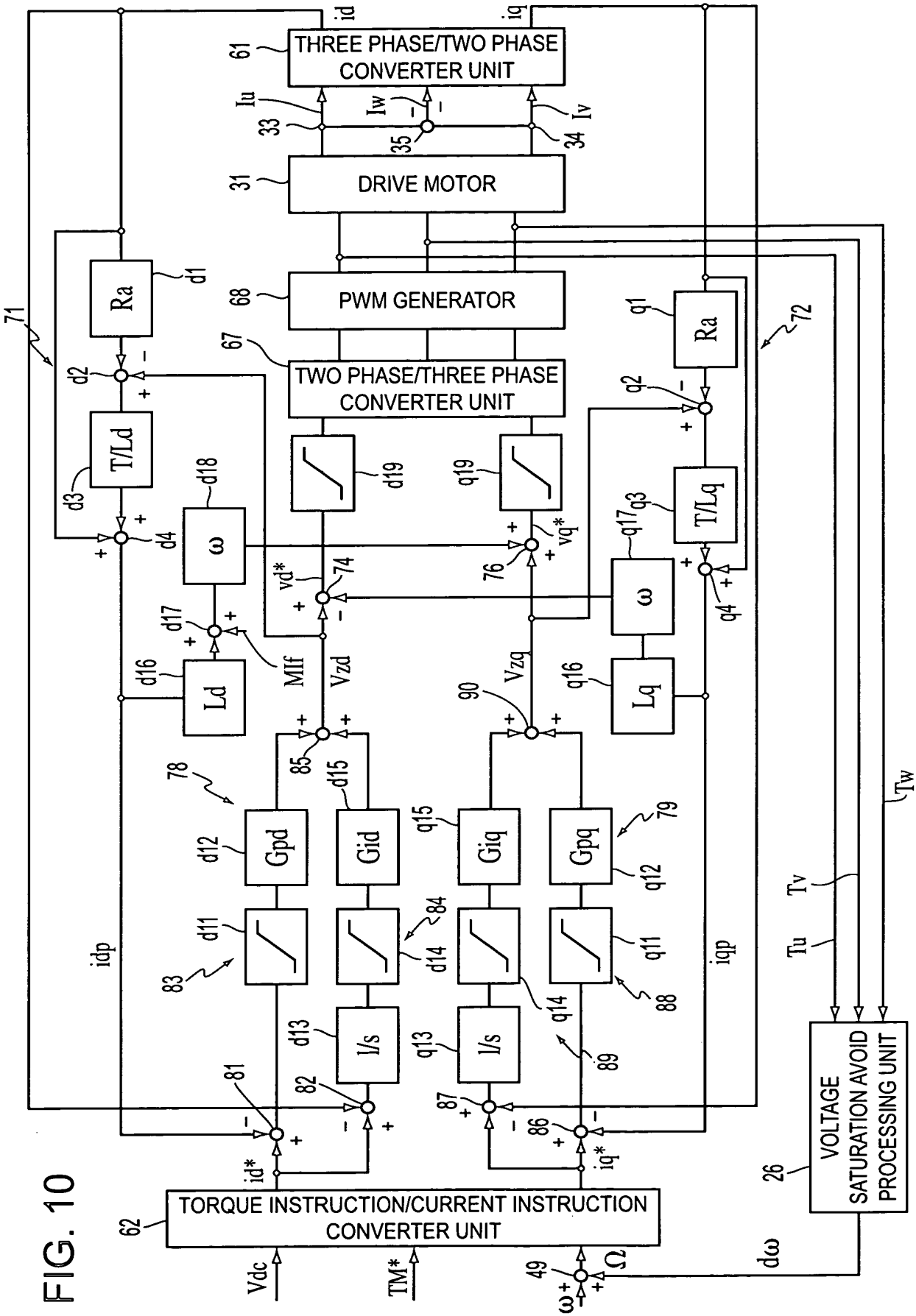
THREE PHASE/TWO PHASE CONVERTER UNIT
DRIVE MOTOR
PWM GENERATOR
TWO PHASE/THREE PHASE CONVERTER UNIT
TORQUE INSTRUCTION/CURRENT INSTRUCTION CONVERTER UNIT
VOLTAGE SATURATION AVOID PROCESSING UNIT
Ra
T/Ld
T/Lq
Ld
Lq
ω
Gpd
Gid
Giq
Gpq
1/s
id
iq
Iu
Iv
Iw
idp
iqp
id*
iq*
vd*
vq*
Vzd
Vzq
Mlf
Vdc
TM*
Tu
Tv
Tw
dω

FIG. 10

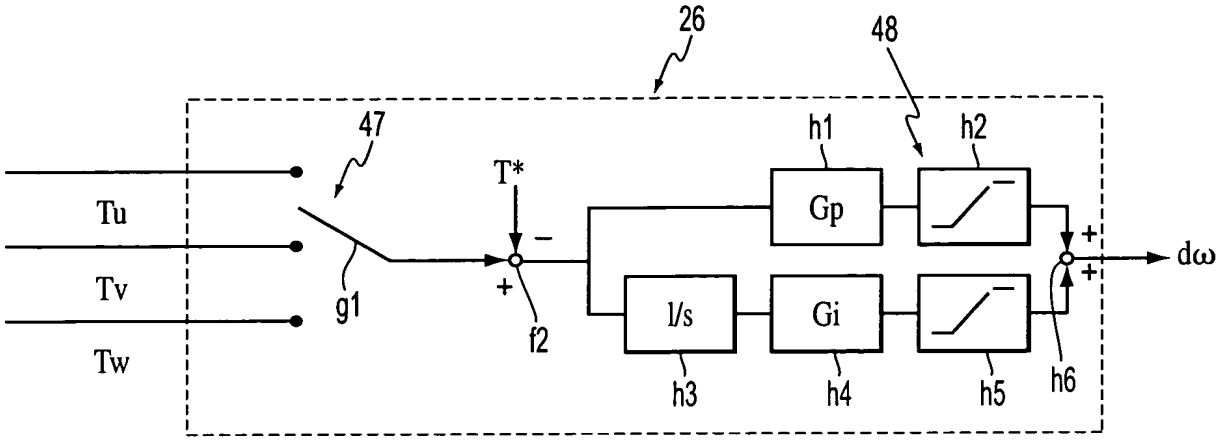
26
48
47
h1
h2
T*
Tu
Tv
Tw
g1
f2
Gp
1/s
Gi
h3
h4
h5
h6
dω

FIG. 11

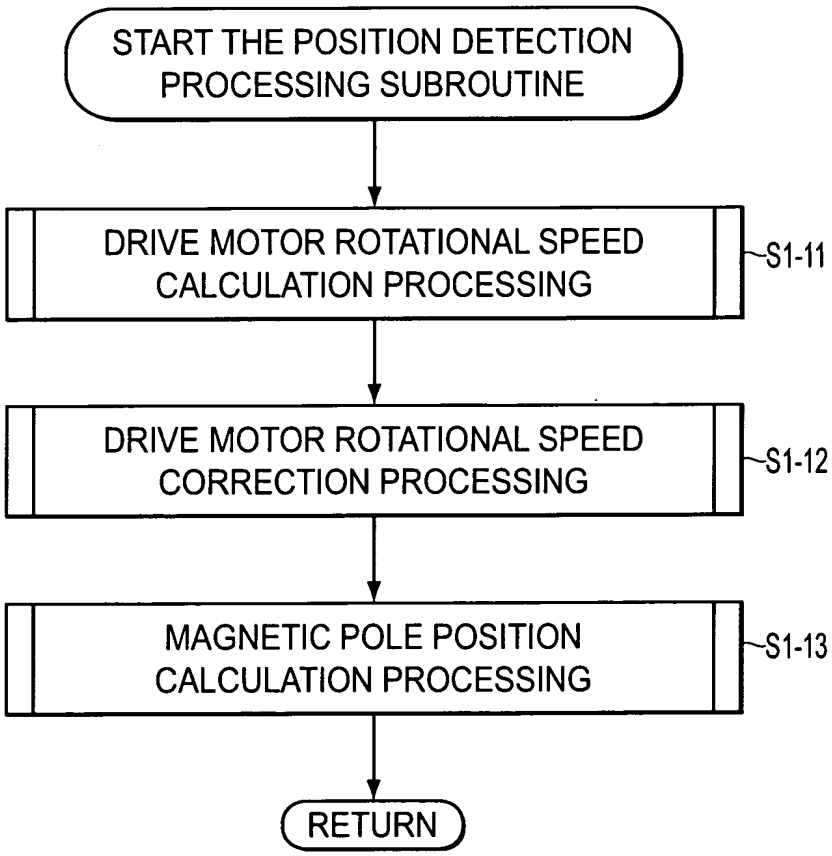
START THE POSITION DETECTION PROCESSING SUBROUTINE
DRIVE MOTOR ROTATIONAL SPEED CALCULATION PROCESSING
S1-11
DRIVE MOTOR ROTATIONAL SPEED CORRECTION PROCESSING
S1-12
MAGNETIC POLE POSITION CALCULATION PROCESSING
S1-13
RETURN

FIG. 12

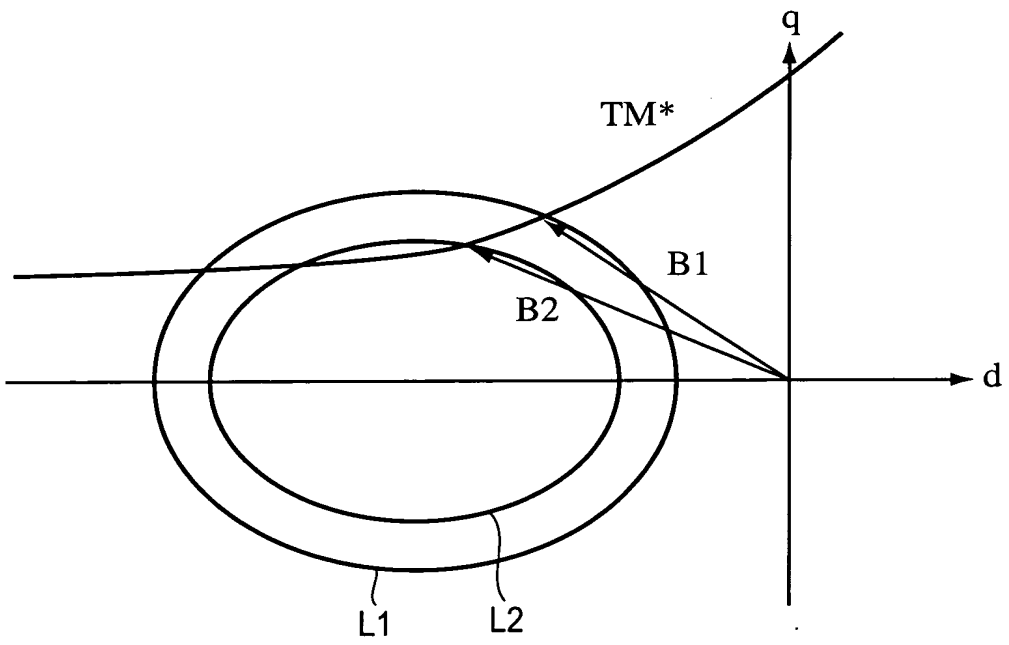

FIG. 13

Vdc=42		TARGET DRIVE MOTOR TORQUE TM* [Nm]										
		0	10	20	30	40	50	60	70	80	90	100
TARGET DRIVE MOTOR ROTATIONAL SPEED NM* [rpm]	0	0	70	130	190	250	300	360	420	480	540	620
	1000	0	70	130	190	250	300	360	420	480	540	620
	2000	0	70	130	190	250	300	366	420	480	536	536
	3000	0	70	130	190	250	308	377	417	417	417	417
	4000	66	60	123	191	258	338	382	382	382	382	382
	5000	92	108	155	210	293	401	401	401	401	401	401
	6000	130	150	199	251	347	510	510	510	510	510	510
	7000	167	170	219	270	409	409	409	409	409	409	409
	8000	199	199	245	301	356	356	356	356	356	356	356
	9000	224	221	272	322	322	322	322	322	322	322	322
	10000	250	227	298	360	360	360	360	360	360	360	360
	11000	300	300	300	300	300	300	300	300	300	300	300

FIG. 14

Vdc=42		TARGET DRIVE MOTOR TORQUE TM* [Nm]										
		0	10	20	30	40	50	60	70	80	90	100
TARGET DRIVE MOTOR ROTATIONAL SPEED NM* [rpm]	0	30	30	30	30	30	30	30	30	30	30	30
	1000	30	30	30	30	30	30	30	30	30	30	30
	2000	30	30	30	30	30	30	30	30	30	45	45
	3000	30	30	30	30	30	34	41	44	44	44	44
	4000	76	31	29	38	43	51	54	54	54	54	54
	5000	80	69	57	53	57	65	65	65	65	65	65
	6000	82	78	68	63	67	75	75	75	75	75	75
	7000	83	80	72	67	74	74	74	74	74	74	74
	8000	84	82	75	70	72	72	72	72	72	72	72
	9000	84	84	77	72	72	72	72	72	72	72	72
	10000	85	84	78	75	75	75	75	75	75	75	75
	11000	90	90	90	90	90	90	90	90	90	90	90

FIG. 15

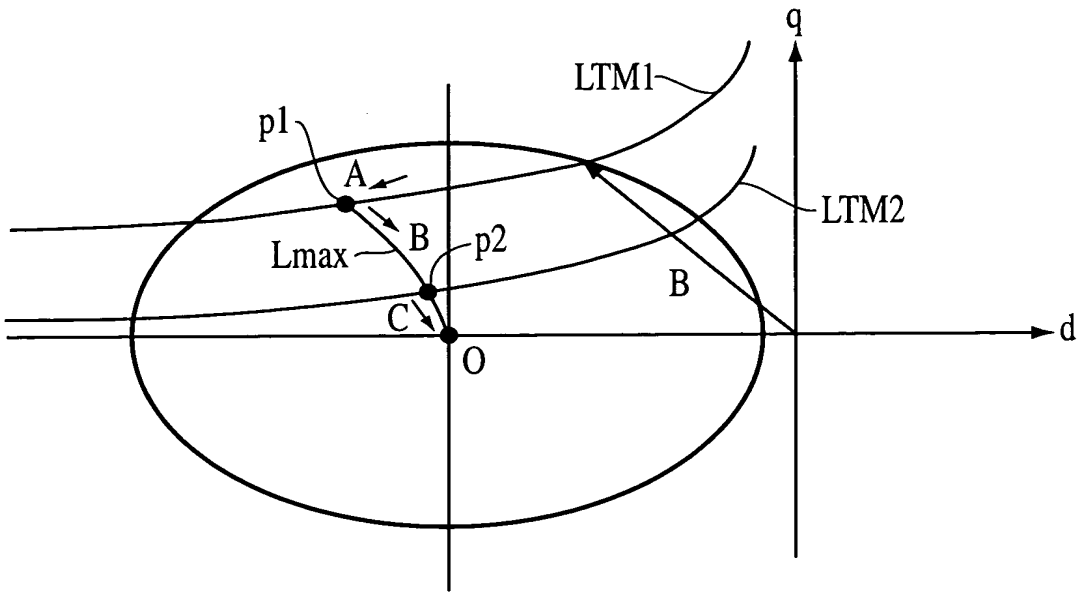

FIG. 16